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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/28/2003

Akihito Kusano

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EXAMINER

NGUYEN, XUAN LAN T

ART UNIT

PAPER NUMBER

3683

DATE MAILED: 08/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/693,993	Applicant(s) KUSANO, AKIHITO	
	Examiner Lan Nguyen	Art Unit 3683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
4a) Of the above claim(s) 7 and 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicant amended claims 1, 3 and 5 to further defining the pressure difference limiting means wherein the pressure difference limiting means comprises various ports and performs various tasks independently of operation of said linear proportioning solenoid valve. In reviewing the specification, page 12 states "a pressure regulating device RV as shown in FIG. 2, which serves as the pressure regulating means according to the present invention." (lines 4-6); "there is disposed the pressure regulating device RV which regulates the hydraulic pressure ... , and provides a pressure difference limiting function, as will be described later in detail." (lines 17-23). Page 25 of the specification states "As enlarged in FIG. 2, the pressure regulating device RV comprises a proportioning electromagnetic valve with three ports (three-port linear solenoid valve)." (lines 6-8). It is understood that the pressure regulating device RV is a three-port linear solenoid valve which provides the functions of pressure regulating and pressure

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difference limiting, according to the specification. Hence, it is impossible for the pressure difference limiting means to function independently of the linear proportioning solenoid valve as claimed; since the pressure difference limiting means and the linear proportioning solenoid valve are two different names that are given to one device. To further prosecution, the claimed feature "independently of operation of said linear proportioning solenoid valve" is not further treated.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Otomo et al. (USP 5,984,432).

Re: claim 1, Otomo et al. shows a hydraulic brake apparatus, as in the present invention, comprising: pressure generating means 12 for generating hydraulic pressure in response to operation of a manually operated braking member 126; a wheel brake cylinder 50 operatively mounted on a wheel of said vehicle for applying braking force to said wheel with the hydraulic pressure fed from said pressure generating means; a reservoir 154 for storing brake fluid; and pressure regulating means 56 disposed between said pressure generating means and said wheel brake cylinder, and connected with said reservoir, wherein said pressure regulating means regulates the hydraulic

pressure fed into said wheel brake cylinder to provide a desired pressure less than the hydraulic pressure generated by said pressure generating means as shown in figure 5, and wherein said pressure regulating means including; a linear proportioning solenoid valve 150, 152 for communicating said wheel brake cylinder with one of said reservoir and said pressure generating means, to regulate a pressure difference between the hydraulic pressure output from said pressure generating means and the hydraulic pressure fed into said wheel brake cylinder, into a desired value in response to electromagnetic force exerted by said linear proportioning solenoid valve, and pressure difference limiting means 56 communicated with said pressure generating means through a first port 164, communicated with said wheel brake cylinder through a second port 166, and communicated with said reservoir through a third port 176, said pressure difference limiting means blocking the communication between said wheel brake cylinder and said reservoir through said second port and said third port, and communicating said pressure generating means with said wheel brake cylinder through said first port and said second port, respective, as shown in figure 3, when the pressure difference between the hydraulic pressure output from said pressure generating means and the hydraulic pressure fed into said wheel brake cylinder is at least equal to a predetermined value, as shown in figures 15, 21 as pressure increasing states.

Re: claim 3, the discussion of the rejection of claim 1 meets most of the claimed limitations of claim 3. Otomo et al. further shows pressure source 14, pressure regulator valve 104 and the pressure regulating means connecting between the pressure regulator valve 104 and reservoir 154 as claimed.

Re: claim 5, the discussion of the rejection of claim 1 meets most of the claimed limitations of claim 5. Otomo et al. further shows pressure source 14, pressure regulator valve 104, master cylinder 12 having a pressure chamber 122 for receiving the hydraulic pressure fed from said pressure regulator valve 104, a master piston 132 actuated by the hydraulic pressure in said pressure chamber to discharge hydraulic braking pressure and a pressure regulating means connecting between the pressure regulator valve 104 and reservoir 154 as claimed.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otomo et al. (USP 5,984,432) in view of Takata et al. (USP 5,109,886).

Otomo's brake apparatus, as rejected in claims 1, 3 and 5 above, lacks the structure of a linear proportioning solenoid valve as claimed in claims 2, 4 and 6. Takata teach an old and well known linear proportioning solenoid valve in figure 1 as a compact, easy to use and superior in controlling the rate of increasing and decreasing pressure in a hydraulic brake system, as stated in the Background section of Takata. Takata shows a solenoid valve, as in the present invention, comprising: a valve member 12 with opposite ends thereof applied with the hydraulic pressure output from a

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pressure generating means at input 13 and the hydraulic pressure fed into said wheel brake cylinder at output 16, respectively, and an electromagnetic actuator 20 for actuating said valve member, and wherein a pressure difference limiting means 18 disposed between said valve member and said actuator and provided with an elastic member for holding said valve member and said actuator spaced apart from each other by a predetermined distance to be moved in a body, as shown in figure 1, and compressed in response to increase of the pressure difference when the pressure difference is one of equal to and greater than the predetermined value, so that when the pressure difference is one of equal to and greater than the predetermined value, said valve member 12 is moved together with said elastic member 18 in response to increase of the pressure difference as described in column 3, lines 1-48, to block the communication between said wheel brake cylinder at 16 and a reservoir at 17, and to allow the hydraulic pressure supplied from said pressure generating means at 13 to said wheel brake cylinder at 17 through said valve member, as shown in figure 1 there comprises a central bore in valve member 12 for hydraulic to flow through. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Otomo's brake apparatus to have comprised a linear proportional solenoid valve such as taught by Takata et al. as a pressure regulating means; since said linear proportional solenoid valve is known for being compact, easy to use and superior in controlling the rate of increasing and decreasing pressure in a hydraulic brake system, as stated in the Background section of Takata.

Response to Arguments

7. Applicant's arguments filed 4/25/05 have been fully considered. A slightly modified interpretation of Otomo et al. is presented above to meet the amended portions of claims 1, 3 and 5.
8. The new 112, 1st paragraph rejection is presented above due to the amendments to claims 1, 3 and 5.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lan Nguyen whose telephone number is (571) 272-7121. The examiner can normally be reached on M-F, 8 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on (571) 272-7095. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lan Nguyen
Primary Examiner
Art Unit 3683



8/16/05